

## Troubleshooting

There are no user-serviceable parts inside of the Area Lighting Controller. Please return the device to OSRAM Sylvania Inc if service is required.

## Regulatory Approvals

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment under FCC rules.

This equipment has been tested and found to comply with Industry Canada ICES-003 Issue 5 (CAN ICES-3 (A)/NMB-3(A)).

The contents of this Wiring and Installation Manual are subject to change without notice.

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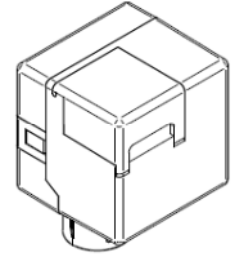
# ENCELIUM™ Energy Management System

## Area Lighting Controller

### Wiring and Installation Manual

## Overview

The Area Lighting Controller interfaces between the ENCELIUM Energy Management System (EMS) and most electrical loads (particularly dimming electronic ballasts). The modules obtain their operating power together with communication signals via the GreenBus II™ control wire architecture. The modules feature an integrated relay to interrupt power to their loads (ballasts) which is rated up to 277 V (U.S.) and 347V (CAD) and therefore makes the module usable with all common lighting circuit voltages. Secondly, the module features an interface which allows control of the dimming signal to fixture ballasts or other accessories. The dimming interface is isolated for installation as either NEC Class 1 or 2 circuit.



The Area Lighting Controller can therefore control dimming and switching separately or together.

The module makes each device addressable via the GreenBus II™ (e.g. each light fixture controlled by the module can be dimmed and turned "ON/OFF"). The module will obtain its address during the commissioning process and no actions are required during installation.

The following model is available:

Indoor Location Part Number	Damp Location Part Number
EN-ALC-1R10V-GB2	EN-ALC-1R10V-GB2-DR

## Important Safeguards



When using electrical equipment, basic safety precautions should always be followed including the following:

- READ AND FOLLOW ALL SAFETY INSTRUCTIONS.
- Do not let power supply cords touch hot surfaces.
- Do not mount near gas or electric heaters.
- Equipment should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
- The use of accessory equipment is not recommended by OSRAM Sylvania as it may cause an unsafe condition.
- Do not use this equipment for other than the intended use.



SAVE THESE INSTRUCTIONS

## GreenBus II™ Wiring

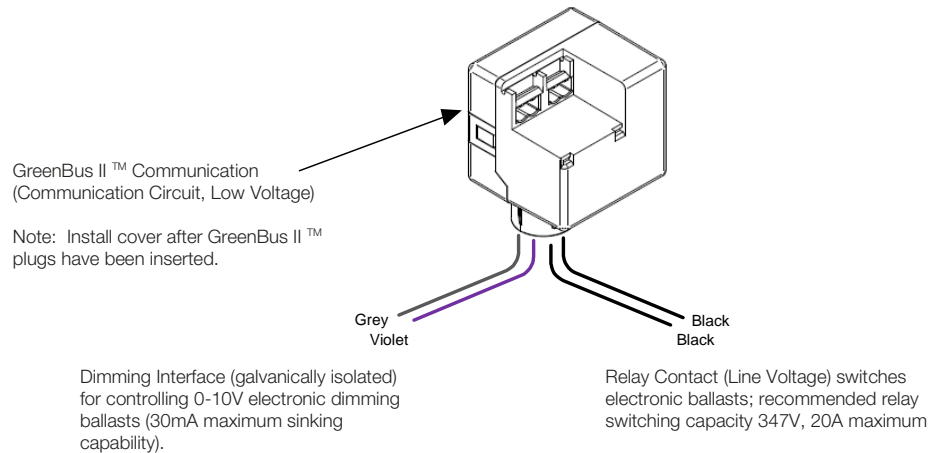
Communication Circuit (24VDC, Class 2)

GreenBus II™ is a low-cost, high reliability communication means to report sensor information back to the ENCELIUM Energy Management System and to obtain optimum brightness settings for light fixtures from the system – optimized to result in minimum energy costs for any given building.

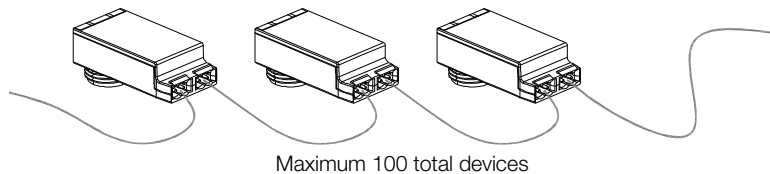
The GreenBus II™ wiring originates at an Energy Control Unit (ECU) and propagates in a daisy-chain or “T” fashion from module to module (or other compatible equipment).



GreenBus II™ uses proprietary connectors and jacks for ease of installation only. GreenBus II™ is a proprietary standard. Connect to ENCELIUM Energy Management System only. Do not connect to other circuits.



Connect to ENCELIUM Energy Management System only. Do not connect to other circuits.



GreenBus II™ must be laid out as per ENCELIUM EMS supplied drawing. If changes are required, determine an optimum wiring path utilizing the supplied prefabricated cables, based on the position of light fixtures and sensors. As the modules obtain power via the GreenBus II™, the number of modules on each chain is limited. It is suggested to leave room for future system upgrades and to limit the number of modules per chain to 100 units during initial installation.

## Module Installation

The Area Lighting Controller interface (purple and grey wires) is a galvanically isolated 0-10V circuit such that it may be wired as NEC Class 1 or 2.

In a typical installation, Area Lighting Controller connect to electronic dimming, non-dimming, HID, etc., ballasts to make each individual device controllable by the GreenBus II™ system. The mechanical construction allows for simple installation of the module in an available ½-inch knock-out on top of a fixture, as shown. For some installations, a junction box may be required. It is recommended to securely mount the Area Lighting Controller to the junction box using an available ½-inch knock-out. No retainer nut is needed because the module has integrated retention clips built into the knock-out nipple.

GreenBus II™ communication wiring is still accessible from the outside of the fixture, while all necessary wiring to the electronic dimming ballast is available on the inside.

The module is made from tested material to be used in plenum or “plenum rated” areas. All wiring is rated 600V, 105°C for use in light fixtures. Wire as shown.

Black wires connect to the internal relay and allow the module to interrupt power to the load for complete shutoff. The purple and grey wires control dimming functions. **Refer to local code, etc.**

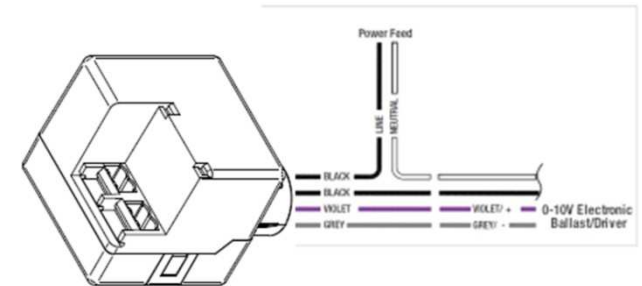
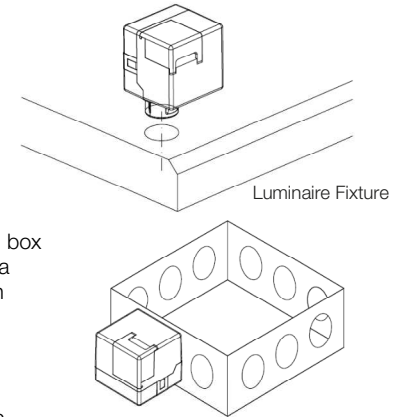
To control multiple ballasts, parallel all ballast input wires (line, neutral and control wires purple and grey). It is recommended to observe the maximum ratings of the Area Lighting Controller to ensure maximum ratings are not exceeded (see below).



Recommended Relay switching capacity, 120-347V, 20A maximum.  
 Recommended Dimming signal capacity, 0-10V, 30mA maximum (sinking).



Due to the internal relay, power feed to fixture may be live even if lights are off. Turn off power at circuit breaker or fuse before installing or servicing module. Observe lockout procedures.



## Installation Notes

Various models of the Area Lighting Control are to be installed in dry, indoor locations ONLY. For damp installations, ensure to use the appropriately rated version of the Area Lighting Control Module (see Models section of this manual). Damp locations are defined as: interior locations subject to moderate degrees of moisture, such as some basements, some barns, some cold-storage warehouses, and the like, and partially protected locations under canopies, marquees, roofed open porches, and the like.